

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of the City of Madison, and the Wisconsin and Southern Railroad Co. for a Determination of the Adequacy of Protective Devices at the Public Crossing of the Wisconsin and Southern Railroad Co. Tracks with West Washington Avenue in the City of Madison, Dane County

9170-RX-145

FINAL DECISION

On June 4, 2002, the City of Madison (City) filed a petition with the Office of the Commissioner of Railroads (OCR) under §195.28, Wis. Stats. for a determination of the adequacy of warning devices at the public crossing of the Wisconsin and Southern Railroad Co. (Railroad) tracks with W. Washington Avenue in the City of Madison, Dane County (Crossing No. 391-720V). On November 25, 2002, the Wisconsin and Southern petitioned this Office for the same determination.

An OCR investigator inspected the crossing on June 17, 2002. An order was entered without hearing on February 4, 2003. The City of Madison requested a public hearing of the matter, objecting to the apportioning of costs of certain improvements and to that portion of the order requiring the blowing of train horns at the crossing. The later objection was based upon the assertion that the authority of the Office of the Commissioner of Railroads under §195.28, Wis. Stats. does not extend to such an order. The City has also proposed to modify the physical structure of the crossing, reducing the number of traffic lanes from six to four to provide additional safety for the users of a bike trail proposed to cross West Washington Avenue on a course parallel to the tracks. A public hearing in this matter was therefore noticed and held on October 28, 2003 and continued on November 19, 2003, under Ch. 195, Wis. Stats.

On December 3, 2003, the hearing examiner issued a proposed decision. DOT concurred with the proposed decision. Subsequently, DOT requested that the order include a barrier gate for eastbound traffic in addition to the barrier gate for westbound traffic. DOT also requested that the reference to a short arm gate for eastbound traffic be removed. DOT also states, "In addition to the \$88,000 listed for the westbound barrier gates, Quixote has offered to supply the eastbound gate and mechanism for \$30,000." DOT noted that Quixote does not control the local concrete contractor's costs for the footings which they estimated at \$5000 each (two per gate). DOT requested that the Findings state that Quixote will supply the barrier gates, mechanisms, near and far receivers, lag bolts, spare arm and storage cabinet for a total of \$108,000 (\$78,000 + \$30,000) for both directions of traffic and not mention the concrete foundations in the Order. The Commissioner hereby adopts these statements as part of the Findings of Fact.

Findings of Fact

THE COMMISSIONER FINDS:

W. Washington Avenue is a six-lane roadway in the vicinity of the crossing with three lanes in either direction. A median separates the two directions of traffic. The eastbound three lanes are 40' 6" wide between curbs, and the westbound three lanes are 40' 6" between curbs. The median west of the track is 8' 6" wide, and the median east of the track is 7' 9" wide. The proposed roadway will consist of two travel lanes in each direction measuring 29' between face of curbs and a 21'-wide median. The existing westbound roadway will be narrowed by widening the median and the eastbound roadway will be narrowed by moving the curb line inward and increasing the width of the terrace. The width of the crossing will be unchanged. No work is needed on the crossing as the surface is in good condition. The roadway intersects the railroad tracks at an angle of approximately 80° measured in the northwest quadrant. The roadway approaches to the crossing are nearly level. W. Washington Avenue carried an average daily traffic (ADT) of 27,150; according to 2000 DOT records, at a legal speed limit of 25 mph.

The Railroad operates nine train movements per day over the crossing at a timetable speed of 20 mph. The railroad operates four through movements and five switch movements each day. The crossing consists of one mainline track. The crossing of W. Main Street is approximately 375' east of the crossing. There is a switch point for a sidetrack approximately 375' west of the W. Washington Avenue crossing.

A motorist traveling at 25 mph requires a safe stopping distance of 165 feet. The crossing is visible from greater than this distance in each direction. Assuming a train speed of 20 mph, a motorist traveling at 25 mph needs to see a train when it is 180 feet from the crossing from a point 165 feet down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 140 feet in the northwest quadrant, 60 feet in the northeast quadrant, 70 feet in the southwest quadrant and 250 feet in the southeast quadrant.

The exposure factor at this crossing is 244,350. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Seven train-vehicle accidents have occurred at this crossing since 1973, including an accident in 2001 and an accident in 2002 involving a total of three injuries. The great preponderance of these accidents has occurred in the westbound lanes.

The Office of the Commissioner of Railroads has received a proposal for the purchase of one barrier gate system in complete form together with a spare arm and storage cabinet. That proposal is in the amount of \$88,000.00 and is on file and available for inspection at the Office of the Commissioner of Railroads. This sum does not include installation of the equipment at the crossing or the concrete foundations. As noted above, Quixote has subsequently offered to provide materials for eastbound traffic for \$30,000.

Current warning devices consist of cantilevered 12-inch flashing light signals. They were installed in 1978. Due to the accident history, very high exposure factor and the limited view down the tracks by the traveling public, the existing warning devices are deemed inadequate. They will serve, however, until installation of improvements consistent with this order. In order to adequately protect public safety, new 12" LED automatic flashing lights (in the median and behind the outside curbs) and barrier gates with constant warning time circuitry are needed.

Constant warning time circuitry adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

Light emitting diodes (LED) lamps replace incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

Source of Funding: The cost of the signal materials and installation shall be paid for by the DOT, the City of Madison and OCR safety funds.

Ultimate Conclusions on the Issues

THE COMMISSIONER CONCLUDES:

That in order to adequately protect and promote public safety at the crossing of the tracks of the Wisconsin & Southern Railroad Co. with West Washington Avenue in the City of Madison, Dane County, it is necessary to install and maintain 12" LED automatic flashing lights in the median and behind the outside curb and barrier gates on each approach to the crossing with constant warning time circuitry. **Finally, it is necessary to provide for the sounding of locomotive horns on trains approaching the crossing, until such time as the barrier gate is completely installed and operational, subject to the Federal Railroad Administration's regulation of train horns in 49 CFR Part 222.**

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the Office of the Commissioner of Railroads has jurisdiction of this matter under Ch. 195 Wis. Stats. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Wisconsin & Southern Railroad Co.** shall install and maintain side-of-road and median mast-mounted 12" LED automatic flashing lights, barrier gates on each approach with constant warning time circuitry with appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with West Washington Avenue at-grade in the City of Madison, Dane County at the earliest opportunity is encouraged, but in any case, by **September 1, 2005** (Crossing No. 391 720V).

2. That the **Wisconsin & Southern Railroad Co.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation. The barrier gates, mechanisms, near and far receivers, lag bolts, spare arm and storage cabinet shall be provided at a cost not to exceed \$108,000.00 in accordance with the proposal described above.

3. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

4. That pending installation and operation of such barrier gates, the **Wisconsin and Southern Railroad Co.** shall, **upon approach to the crossing, cause the horn of such train to be blown in the standard manner**, subject to the Federal Railroad Administration's regulation of train horns in 49 CFR Part 222.

5. That the **Wisconsin and Southern Railroad Co.** shall bear no part of the cost of the crossing signals installation, except for any cost assessed to the railroad pursuant to §195.60, Stats. for the investigation of this matter by the Office.

6. That jurisdiction is retained.

Dated at Madison, Wisconsin, _____.

By the Office of the Commissioner of Railroads.

Rodney W. Kreunen
Commissioner of Railroads

9170sig145